VEGETATION CLASSIFICATION AND SURVEY

International Association for Vegetation Science (IAVS)

Vegetation Classification and Survey 6: 131–132
doi: 10.3897/VCS.150538

SHORT DATABASE REPORT ECOINFORMATICS

LAURA: a resurvey database of forest vegetation in southwestern Poland

Krzysztof Świerkosz[1], Anna Wójcicka-Rosińska[2], Iwona Kuras-Hilares[3], Paweł Pech[4], Kamila Reczyńska[5]

1 *Museum of Natural History, Wrocław, Poland*
2 *Geosilva Sp. z o.o., Oława, Poland*
3 *Independent Researcher, Trzeszczany, Poland*
4 *Bureau of Forest Management and Geodesy, Brzeg, Poland*
5 *Independent Researcher, Wrocław, Poland*

Corresponding author: Krzysztof Świerkosz (krzysztof.swierkosz@life.pl)

Academic editor: Jürgen Dengler
Received 17 February 2025 ♦ **Accepted** 3 April 2025 ♦ **Published** 14 May 2025

Abstract

The LAURA database is a resurvey dataset documenting long-term changes in forest vegetation across southwestern Poland. It currently includes 842 phytosociological relevés from 409 plots across 20 sites. The dataset covers a wide range of forest types, from lowland riparian forests up to subalpine woods. The database primarily relies on archival data collected between 1955 and 2000, which are revisited at the originally described locations, mostly in nature reserves. The average time span between surveys is 35 years, with a minimum of 14 years. The LAURA database provides valuable insights into the long-term effects of environmental change on forest communities. It may facilitate studies on species composition shifts, biodiversity trends, and forest succession in response to factors such as climate change, land-use history, and conservation efforts. Additionally, by integrating part of its dataset (35%) with forestREplot and ReSurveyEurope, it contributes to large-scale comparative analyses of European forest ecosystems.

Keywords

Alno glutinosae-Populetea albae, *Carpino-Fagetea sylvaticae*, forest vegetation, quasi-permanent plot, *Quercetea pubescentis*, resurvey vegetation database, southwestern Poland, *Vaccinio-Piceetea*

PENSOFT

Copyright *Krzysztof Świerkosz et al.* This is an open access article distributed under the terms of the Creative Commons Attribution License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

GIVD Fact Sheet

GIVD Database ID: EU-PL-006 **Last update:** 2025-04-02

LAURA: a resurvey database of forest vegetation in southwestern Poland

Web address:

Database manager(s): Krzysztof Świerkosz (krzysztof.swierkosz@life.pl); Kamila Reczyńska (kamila.reczynska@gmail.com)

Owner: Krzysztof Świerkosz & Kamila Reczyńska. **Co-authors**: Anna Wójcicka Rosińska, Iwona Kuras-Hilares, Paweł Pech.

Scope: LAURA is a thematic, resurvey database focused on documentation of changes in natural forest communities.

Abstract: Currently, the database includes 842 relevés (409 repeatedly sampled plots from 20 sites) corresponding to most of the forest types occurring within the investigated area – from thermophilic oakwoods, through riparian and oak-hornbeam forests, to high-mountain spruce and relic Scots Pine forest communities. Therefore, it provides a robust basis for studying changes in a diverse sample of forests developing on various types of substrates and at different altitudes (ranging from 120 to 1300 m a.s.l.), while sharing the same species pool characteristic of a specific region in Central Europe.

The project is continuous in character. At present, it is primarily based on the analysis of literature data collected by various authors between 1955 and 2000. These studies were revisited at the locations originally described – mostly within nature reserves. Due to the lack of precise geolocation data in the archival publications from which the data were extracted, determining the exact positional error of the patches is challenging. However, their locations were reconstructed based on topographic features such as slope inclination and aspect, which were consistently described in the original sources. Additionally, as the study areas did not exceed 30 ha, the possible location error was further constrained. Based on these factors, the average positional uncertainty is estimated not to exceed 60 m, with a median error of 50 m. As a result, the average and median time span between the baseline surveys and resurveys is 35 years, providing for the long-term perspective for the compared data. Additionally, phytosociological relevés collected by the authors of the database are also utilized. The shortest time span is 14 years.

Relevés were collected using the standard Braun-Blanquet method (species coverage scale: r, +, 1, 2, 3, 4, 5) and square-shaped plots. Recently, circular plots with a standard surface area of 225 square meters and a modified Braun-Blanquet scale have been adopted. Current locations are determined using GPS device equipped with the SiRFstar III chipset, with position accuracy ranging from 2 and 15 meters (average: 10 meters). Aspect is measured with an electronic compass linked to the GPS, while altitude is obtained from Google Earth and, if necessary, corrected using landmarks from topographical maps. Subsequent resurveys of the plots are conducted during specifically planned field visits or as a part of other research carried out in the same area.

Part of the collected data (approximately 35%) is also available in the forestREplot and ReSurveyEurope databases. All data are available under a semi-restricted access protocol upon request to the database curators.

Availability: according to a specific agreement		**Online upload:** no	**Online search:** no
Database format(s): TURBOVEG		**Export format(s):** TURBOVEG, Excel	
Plot type(s): time series		**Plot-size range (m²):** 100 to 600	
Non-overlapping plots: 409	**Estimate of existing plots:** 500	**Completeness:** 82%	**Status:** completed and continuing
Total no. of plot observations: 842	**Number of sources (biblioreferences, data collectors):** 20		**Valid taxa:** 491

Countries (%): PL: 100

Formations: Forest: 100% = Terrestrial: 100%

Guilds: all vascular plants: 100%; bryophytes (terricolous or aquatic): 50%

Plot size categories (%): 100-1000 m2: 100%;

Environmental data (%): altitude: 100; slope aspect: 100; slope inclination: 100

Performance measure(s): cover: 100%

Geographic localisation: GPS coordinates (precision 25 m or less): 100%

Sampling periods: 1950-1959: 3.8%; 1960-1969: 19%; 1970-1979: 0.8%; 1980-1989: 8%; 1990-1999: 14.9%; 2000-2009: 6.4%; 2010-2019: 32.6%; after 2020: 15.9%

Information as of 2025-04-02; further details and future updates available from http://www.givd.info/ID/EU-PL-006

E-mail and ORCID

Krzysztof Świerkosz (Corresponding author, krzysztof.swierkosz@life.pl), ORCID: https://orcid.org/0000-0002-5145-178X
Anna Wójcicka-Rosińska (anna.wojcicka@geosilva.pl)
Iwona Kuras-Hilares (iwona.kuras@onet.eu), ORCID: https://orcid.org/0000-0002-5754-512X
Paweł Pech (paw.pech@gmail.com)
Kamila Reczyńska (kamila.reczynska@gmail.com), ORCID: https://orcid.org/0000-0002-0938-8430